



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: CFM56-5B2/2  
 UNIQUE ID NUMBER: 2CM017  
 COMBUSTOR: DAC  
 ENGINE TYPE: TF

BYPASS RATIO: 5.7  
 PRESSURE RATIO ( $\pi_{oo}$ ): 31.2  
 RATED THRUST ( $F_{oo}$ ) (kN): 137.9

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>oo</sub> (g/kN) or SN	10.5	85.9	46.0	5.6
AS % OF ORIGINAL LIMIT	53.6	72.8	44.9	25.8
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			56.2	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			66.3	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			75.0	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			87.6	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES  
 - DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: - )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>oo</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	1.406	0.10	0.40	29.57	0.5
CLIMB OUT	85	2.2	1.132	0.10	1.70	15.86	0.5
APPROACH	30	4.0	0.377	8.40	35.80	7.24	2.3
IDLE	7	26.0	0.131	1.70	33.70	4.82	3.5
LTO TOTAL FUEL (kg) or EMISSIONS (g)			503	1128	10404	5756	-
NUMBER OF ENGINES				2	2	2	2
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>oo</sub> (g/kN) or AVERAGE SN (MAX)				8.1	75.4	41.8	4.8
SIGMA (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>oo</sub> in g/kN, or SN)				7.9-8.9	70-80.9	40.7-42.8	4.5-5

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.7-101
TEMPERATURE (K)	293-299
ABS HUMIDITY (kg/kg)	0.0114-0.0129

### FUEL

SPEC	Jet A
H/C	1.93
AROM (%)	16.8

MANUFACTURER: CFM International  
 TEST ORGANIZATION: CFM56 Evaluation Engineering  
 TEST LOCATION: PTO Site IIIC  
 TEST DATES: 15/06/1994-01/07/1994

### REMARKS

1. Ref GE Report CR-797/2.
2. Engine S/N 779131/001 & 779132/001
3. DAC combustor

Compliance with Fuel Venting requirements: - ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)